

**Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services**

STATEMENT OF BASIS

**Addis Facility
Sid Richardson Carbon & Energy Company
Addis, West Baton Rouge Parish, Louisiana
Agency Interest Number: 4174
Activity Number: PER20080003
Proposed Permit Number: 3120-00006-V1**

I. APPLICANT

Company:

Sid Richardson Carbon & Energy Company
PO Box 267
Addis, Louisiana 70710-0267

Facility:

Sid Richardson Carbon & Energy Company
5221 Sid Richardson @ Hwy 1 S
Addis, West Baton Rouge Parish, Louisiana
Approximate UTM coordinates are 665.49 km East and 3356.40 km North, Zone 15.

II. FACILITY AND CURRENT PERMIT STATUS

The Addis Plant operates three carbon black production units, designated as Unit 1, Unit 2, and Unit 3. These units produce carbon black by the oil furnace process.

Reaction Step

Each unit operates with one or more reactors in a reactor train. In each reactor, natural gas or carbon black feedstock oil (CBO) is combusted with air to produce a hot combustion stream. CBO is injected into the hot combustion stream. The CBO is a heavy hydrocarbon liquid with a small amount of sulfur. The oil is thermally cracked forming an aerosol comprised of very fine solid carbon particles and products of combustion (H_2O , N_2 , H_2 , CO , CO_2 , and small amounts of CH_4 , C_2H_2 , NO_x , H_2S , and other reduced sulfur compounds). The carbon and gaseous mixture is called smoke. Water is injected at the reactors to cool the smoke to 1,000-1,500 °F to stop the cracking. The smoke is further cooled to 500 °F with heat exchangers and additional quench water.

**Addis Facility
Sid Richardson Carbon & Energy Company
Addis, West Baton Rouge Parish, Louisiana
Agency Interest Number: 4174**

Primary Filtering Step, and Flaring

The smoke from the set of reactors in each unit enters a bag filter (called a primary bag filter, PBF) which separates over 99.9% of the carbon black from the gaseous products of combustion, called tailgas. A portion of the tailgas is used in the drying step described later. The remaining tailgas is flared (flare stacks B-1, B-2, B-3). The flared tailgas is called fluegas and contains H₂O, N₂, CO₂, O₂, and small amounts of CO, C₂H₂, NO_x, SO₂, and other reduced sulfur compounds).

Pelletizing Step

The black collected in the PBF is air conveyed to an elevated location to a secondary bag filter (SBF). Over 99.9% of the conveyed black is recovered in the SBF. The SBF stacks are designated SF-1, SF-2, and SF-3A. The black collected in the SBF is fed by gravity to pulverizers, and then to pelletizers where the black is mixed with water to form small beads to increase bulk density.

Drying Step

The wet black from the pelletizers is gravity fed to indirect-fired rotary dryers. Tailgas from the Primary Filtering Step is combusted in incinerator-like burners at the dryers to supply heat to dry the wet pelleted carbon black. The combusted tailgas (called flue gas) leaves the dryers and vents to the atmosphere via two stacks (D-2.7 and D-5.0). The fluegas contains H₂O, N₂, CO₂, O₂, and small components of CO, C₂H₂, NO_x, SO₂, and other reduced sulfur compounds.

Pelleting water evaporated at the dryers contains a small amount of entrained carbon black dust, which is collected in the dryer exhaust bag filter (DEBF), and is air conveyed to the SBF. Over 99.9% of the entrained carbon black is recovered in the DEBFs. The DEBF stacks are designated DF-1, DF-2, and DF-3.

Storage and Shipping Step

The dry pelletized carbon black is conveyed by bucket elevators, screw conveyors, and belt conveyors from the dryers to silos for storage. The black is loaded for customer shipment into semi-bulk (paper bags and big bags), and in bulk (railcars and hopper trucks). Dust collection systems pneumatically convey fugitive carbon black dust from the storage conveying systems and loading/shipping activities to the SBFs.

III. PROPOSED PROJECT/PERMIT INFORMATION

Application

A permit application and Emission Inventory Questionnaire were submitted by Sid Richardson Carbon & Energy Company on June 23, 2008, requesting a Part 70 operating permit renewal.

Project

With the application submitted on June 23, 2008, Sid Richardson Carbon & Energy Company proposes to renew the Part 70 operating permit for their Addis Facility.

Addis Facility
Sid Richardson Carbon & Energy Company
Addis, West Baton Rouge Parish, Louisiana
Agency Interest Number: 4174

Proposed Permit

Permit 3120-00006-V1 will be the Part 70 operating permit renewal for the Addis Facility.

Permitted Air Emissions

Estimated emissions in tons per year are as follows:

<u>Pollutant</u>	<u>Before</u>	<u>After</u>	<u>Change</u>
PM ₁₀	480.90	480.90	-
SO ₂	9,930.30	9,930.30	-
NO _x	439.10	439.10	-
CO	2,460.30	2460.30	-
VOC	127.40	127.40	-

IV REGULATORY ANALYSIS

The applicability of the appropriate regulations is straightforward and provided in the Specific Requirements section of the proposed permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are also provided in the Specific Requirements section of the proposed permit.

Applicability and Exemptions of Selected Subject Items

ID No.	Requirement	Note
EQTs 1-5	Control of Emissions of Nitrogen Oxides (NO _x) [LAC 33:III.2201]	EXEMPT. Sources are flares, kilns, or ovens. [LAC 33:III.2201.C.7]
EQT 11	Emission Standards for Sulfur Dioxide Continuous Emissions Monitoring [LAC 33:III.1511.A]	DOES NOT APPLY. Source emits less than 5 tons per year of sulfur dioxide. [LAC 33:III.1502.A.3]
	Control of Emissions of Nitrogen Oxides (NO _x) [LAC 33:III.2201]	EXEMPT. Engine is operated exclusively for firefighting. [LAC 33:III.2201.C.5]